ABSTRACT

An apparatus and method for accelerating execution of an application running on a data processing system coupled to a memory system (100) through a data network (120). Generally, the apparatus includes a memory matrix (110) in the memory system (100). The memory matrix (110) has a number of memory devices (200) arranged in banks (205) each with a predetermined number of devices, a memory controller (210) coupled to the banks for accessing the devices, and a processor (265) coupled to the controller and through the network (120) to the data processing system. The controller (210) includes at least one application programming interface configured to store, manipulate, and retrieve data in the devices based on a property of the data. Preferably, the memory matrix (110) is SQL enabled. In one embodiment, the devices (200) are Random Access Memory devices, and the controller (210) is adapted to provide on-demand random access to data stored anywhere in the memory matrix (110).